

U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-141-EA

CASEFILE/PROJECT NUMBER (optional):

PROJECT NAME: Box Elder Erosion Control Structures

LEGAL DESCRIPTION: T3N, R100W, Sections 16, 17, 18, 26, 27, 28, 29, 35, & 36
T3N, R101W, Sections 12 & 13

APPLICANT: Rio Blanco Water Conservancy District, Three Springs Ranch, & Hal Tuttle

ISSUES AND CONCERNS (optional):

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: A partnership between the Bureau of Land Management (BLM), Rio Blanco Water Conservancy District, and various BLM grazing permittees has been created to provide a working mechanism to assist in the reduction of salt and sediment loads and erosion rates of highly erosive drainages within the White River Watershed. The partnership has implemented this project in other localities in the past with the BLM completing an Environmental Assessment (EA) for each individual project area. See below for previous EA numbers as a reference.

- CO-WRFO-03-136-EA
- CO-WRFO-02-98-EA
- CO-WRFO-01-187-EA

Proposed Action: The BLM and the applicants have identified 70 sediment retention structures within the Lower Wolf Creek Watershed Management Plan (WMP) and Red Wash WMP for construction and/or reconstruction. Refer to attached Figure 1 (map) and Table 1 for the location and description of these structures. Construction will include use of a dozer to build varying sizes of earthen dams, dependent upon the requirements of the locality, which will function as sediment catchments and small water impoundments, and will have appropriate spillways to dissipate surplus water. These structures will only catch overland flow events from rain and snow melt, as no perennial water exists within the project's boundary. Proposed construction would be authorized from September through October of 2004, or as time and weather allows.

The maximum combined surface disturbance associated with the construction of the new structures (61 sites) would be less than 6.0 acres. Reconstruction and removal of sediment out of the existing structures (9 sites) would result in a re-disturbance of approximately 1.5 acres.

All dams would be small in nature, with a surface area not exceeding 50 feet by 50 feet and an embankment height not exceeding 10 feet with 4 feet of freeboard above the storage pool. Average pool depth would be 5 to 6 feet with about half the pool depth below the existing grade of the drainage.

Most of these sites have been located in small secondary tributaries at or just below advancing headcuts. All structures have been located in the upper ends of these small watersheds to prevent failure and sequential erosion of the dams and adjoining tributaries during high runoff events.

A core trench would be excavated across the drainage before embankment construction to aid in compaction and to prevent water piping under the embankment. Each site would have a spillway constructed at least seven feet wide to minimize concentration of overflowing water. The spillway at each site would be located and designed to the maximum extent possible to discharge water onto grassy flats that would aid in reducing the energy of flowing water from the spillways and increase water infiltration into the soil through irrigation.

Topsoil and herbaceous vegetation from each site would be stockpiled for re-use to be placed in the spillway and across the embankment top and face above the pool level after completion of the structure. This re-used stockpile will provide for an effective seedbed for reclamation. Any excess topsoil would be placed on the backside of the embankment. All disturbed areas, including topsoil re-placement areas, would be seeded immediately following completion of each dam. The BLM will supply necessary seed for reclamation, and the applicant's contractor will distribute seed before leaving each site. Timely seeding will reduce potential soil erosion and lessen the ability of undesirable plant species to establish. To achieve this task, the seed mix will consist of 60% western wheatgrass, 30% crested wheatgrass, 5% Indian ricegrass, and 5% cicer's milkvetch.

All costs for construction and future maintenance of these erosion control dams, except for expenditures relating to the necessary federal approvals, NEPA analysis, and seed mix would be the responsibility of the applicants. It is estimated that the life expectancy of these structures would range from 10 to 20 years before any maintenance work would be required.

No road construction or general dozing would be required or allowed to access any dam site. However, cross-country travel by a dozer, with the blade up, would be necessary to access many of the sites. As shown from previous cross-country dozer travel within this locality in recent years, there are little long-term impacts or evidence of the previous dozer track imprints. There are several old roads/trails that have been identified in the project area and will be used to the maximum extent possible to access the dam sites. See attached figure 1 (map) for existing/abandoned roads in relation to the proposed dozer routes.

No Action Alternative: Under this alternative, no erosion control dams would be built.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: The Rio Blanco Water Conservancy District considered dredging sediment from the reservoir and building a smaller dam on the White River upstream of Kenny Reservoir to serve as a sedimentation trap as alternatives to achieve their objectives. However, the cost of either of these alternatives was above the District's capabilities. Therefore neither of these alternatives will be analyzed in detail in this environmental assessment.

NEED FOR THE ACTION: Kenney Reservoir is located on the White River and serves as the municipal water storage and supply for the town of Rangely, Colorado. The reservoir was constructed in 1983, and since that time the storage capacity of the reservoir has been reduced by 34 percent from sediment loads entering the reservoir. At the current sedimentation rate of 315 acre-feet per year, the water storage capacity of the reservoir will be completely lost in less than 28 years.

The Rio Blanco Water Conservancy District operates the reservoir and associated power generation plant, and they have completed several engineering studies on the most effective and economical methods to extend the life of the reservoir. The most effective method in relation with costs is to retain sediment loads in the watersheds tributary of the White River. The Water District, through a grant from the Colorado Water Conservancy Board, identified and mapped the watersheds producing the greatest sediment loads entering the White River. The Rio Blanco Water Conservancy District has initiated a partnership with local landowners and others to concentrate their efforts in those high sediment-producing watersheds.

Public lands make up nearly 90 percent of the ownership of the high sediment producing watersheds. At least an equal percentage of the management actions and treatment projects needed to extend the life of the reservoir would occur on public land.

The proposed action is to construct 61 erosion control structures and clean sediment out of 9 existing earthen dams. Sediment dams were identified as recommended treatment methods in the Lower Wolf Creek Watershed Management Plan (WMP) and Red Wash WMP to help achieve both plans' objectives. Those objectives include reduction of salt loads within the Colorado River System by retaining high saline soils within the upper watersheds. A significant portion of the project area occurs within the Mancos Shale Uplands, which are identified as Treatment Area 1 in the WMP. Treatment Area 1 has the highest ranking for applying recommended treatment methods and greatest potential for decreasing salt contribution into off site stream systems.

Sediment production from the project area is estimated at 5 to 12 tons per acre per year with some areas producing as much as 20 tons per acre per year. It is estimated that the proposed erosion control structures dams would retain sediments produced from 1,260 acres. This would result in an estimated 6,300 to 15,120 tons of sediment retained in the uplands annually and not transported into the tributaries of the White River and eventually into Kenny Reservoir. In addition, the salt content within the sediment loads would be retained in the uplands and not transported into the White River and eventually the Colorado River System.

Without the erosion control structures, up to 15,120 tons of sediment would continue to be transported annually into waterways leading to Kenny Reservoir. Also, the project area would continue to produce salt loads that would eventually make their way into the Colorado River system.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3): The action conforms to the decisions/pages of the plan listed below.

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: 2-2, 2-3, and 2-23

Decision Language:

Page 2-2: “Identify treatments for fragile watershed acres that are contributing to water quality problems (accelerated erosion and salt contributions) in the Colorado River Basin.”

Page 2-3: “Design projects that will maintain or improve the condition of fragile watersheds identified as contributors of sediment and salinity to the Colorado River system.”

Page 2-23: “Identification of range improvements to enhance rangeland productivity and management.”

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: There are no special designation air sheds or non-attainment areas nearby that would be affected by the proposed action

Environmental Consequences of the Proposed Action: The proposed action would result in short term, local impacts to air quality during and after construction, due to dust being blown into the air. However, airborne particulate matter should not exceed Colorado air quality standards on an hourly or daily basis. Following successful seeding of the sites, airborne particulate matter should return to near pre-construction levels.

Environmental Consequences of the No Action Alternative: Impacts are not anticipated from the no-action alternative.

Mitigation: None

CULTURAL RESOURCES:

Affected Environment: The proposed pond locations have been inventoried at the Class III (100% pedestrian) level (Selle 2004, Compliance Dated 6/18/2004) with no cultural resources identified in the proposed pond areas.

Environmental Consequences of the Proposed Action: The proposed action will not impact any known cultural resources that might be eligible for nomination to or inclusion on the NRHP.

Environmental Consequences of the No Action Alternative: There would be no impacts to cultural resources under the No Action Alternative.

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the operator will likely have to undertake before the identified area can be used for grazing activities again and,

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The project area is a salt desert shrub type. There have been several land treatments in the area consisting of contour furrowing and seeding with crested wheatgrass. Soils are generally deep clayey, alkaline and highly erosive.

Environmental Consequences of the Proposed Action: The proposed seed mix would contain 30% crested wheatgrass. This seed type was chosen as it is highly adapted to the conditions found in this area. Crested wheatgrass will out-compete cheatgrass which is prevalent in the area. The contour furrow projects still contain crested wheatgrass in the furrows, showing the longevity of this seed, approximately 40 years. Crested wheatgrass has not been found to move offsite or to hybridize with species contained in the adjacent plant communities.

Environmental Consequences of the No Action Alternative: There would be no impacts.

Mitigation: None

MIGRATORY BIRDS

Affected Environment: A number of migratory birds fulfill nesting functions throughout the project area's low-elevation sagebrush and salt desert shrubland habitats from April through July. Although most species are common and widely represented in extensive suitable habitats throughout the Resource Area, several are more confined to lower elevation sagebrush and salt desert communities (e.g., sage sparrow and loggerhead shrike) that typify the project area. Those birds identified as having higher conservation interest (i.e., Rocky Mountain Bird Observatory, Partners in Flight program) include: loggerhead shrike, horned lark, and Brewer's and sage sparrows. Sage sparrows are among the most common breeding birds in the shrublands along the Highway 40 corridor and the lower White River below Rangely. Loggerhead shrike are not common, but consistently and regularly distributed among the open greasewood and basin big sagebrush communities north of Coal Reef, and less commonly among the scattered juniper and sagebrush areas of Red Wash south of Coal Reef.

Environmental Consequences of the Proposed Action: This project would be implemented during October and November, well outside the reproductive period of local migratory birds. The individual construction sites are small and are centered on narrow incised channels that are not in positions, nor do they support vegetation, normally selected for nest sites. The proposed action would have no effective influence on the potential extent or quality of breeding bird habitat in the short term. In the long term, rejuvenated channel incises would contribute incrementally to improvements in soil stability and enhancement of herbaceous ground cover properties-characteristics offering improved cover and forage resources for nongame birds during the nesting season.

Environmental Consequences of the No Action Alternative: There would be no action authorized that could potentially influence migratory bird breeding activities or the character or their habitat.

Mitigation: None.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: Much of this project is situated adjacent to the southwest and west margins of the Wolf Creek Black-footed Ferret Management Area. This area was designated in 1997 to aid in the recovery of the endangered black-footed ferret under the auspices of an experimental, nonessential population rule. A cooperatively developed Management Plan was completed and ferrets reintroduced to the area in November 2001.

White-tailed prairie dogs, from which ferrets derive virtually all their shelter and sustenance, are widely, but unevenly distributed in the project area north of Coal Reef. The project sites in sagebrush shrublands along Hall Draw south of the Reef have no history of prairie dog occupation. Prairie dogs themselves have recently been petitioned for listing under the Endangered Species Act and are regarded as BLM sensitive species. Prairie dogs begin to emerge from hibernation in mid-February to early March, about 2-3 weeks before adult females. After emergence of females, the breeding season begins and lasts for about 2-3 weeks. Pups emerge in late May or early June at about 5-7 weeks of age. Surface activity begins to decline for adults in late July to mid-August. Juveniles remain active above ground until late fall. Prairie dog burrow systems, particularly as habitat for burrowing owl and potential black-footed ferret, are generally situated well away from the edge of channel incises targeted for treatment. Individual project sites were sited to specifically avoid involvement of burrows or mound systems. One inactive burrow entrance would be situated 20' from the edge of one structure; the remaining burrow entrances would be at least 50 feet from surface disturbances or the retention pool.

Because there is direct habitat continuity between the Wolf Creek Management Area and the project area, there is potential that ferrets occupy prairie dog towns in lower Box Elder and Skull Creek. Ferret breeding activities begin in early March, with birthing in early May. Young ferrets generally begin to emerge from nest burrows by mid-July.

Burrowing owls (State threatened species, BLM sensitive) are uncommon breeding species throughout this area's prairie dog habitats. The owls return to occupy and nest in maintained prairie dog burrow systems in early April. Young owls emerge and are generally flighted by late July. Family groups remain together through September when the birds leave for southern wintering grounds. No owls were observed during surveys of the project area.

The lower White River and its 100-year floodplain are designated as critical habitat for Colorado pike-minnow, as well as being an important flow contributor to downstream endangered fisheries

in the Green River. However, no pike-minnow occur above Taylor Draw Dam, about 4 miles below the mouth of Red Wash.

Ferruginous hawks (BLM sensitive species) are fairly common breeding birds along the Highway 40 corridor and their nests are well distributed throughout these saltbush communities (7 sites within the general project area). These birds return in early March to begin nesting in mid-April. Fledging normally occurs by mid-July.

Up to a dozen bald eagles make consistent use of the Highway 40 corridor throughout the winter and early spring months from roosts along the White and Yampa Rivers. No special use or habitat value has been attributed to their opportunistic foraging use of these sagebrush and saltbush communities.

The Highway 40 corridor and its extensive prairie dog communities offer superficially acceptable conditions for mountain plover (BLM sensitive), but the Wyoming big sagebrush and black greasewood draw and ridge series associated with much of the lower Box Elder and Skull Creek basins do not constitute suitable habitat for mountain plover. Even with considerable ferret recovery activity over the last two decades, the bird has been neither reported nor documented here.

See Terrestrial Wildlife section for a discussion of greater sage-grouse.

Environmental Consequences of the Proposed Action: It is unlikely that proposed project work would intersect any prairie dog burrow system and because project work is expected to be conducted outside sensitive reproductive timeframes in September and October 2004, there is no reasonable likelihood that construction associated with these pits would have any direct or indirect adverse influence on individual prairie dogs, ferrets, burrowing owl, ferruginous hawk, or the short or long-term utility or availability of habitat for these species. Walking the dozer along existing trails or cross-country to access pit sites is of no concern insofar as subterranean burrow damage, as tracked equipment has a low surface load density. Management actions that arrest channel erosion processes and accumulate sediments as sites for grassed waterways or swales would be expected to incrementally enhance habitat conditions for prairie dogs (e.g., increased availability and persistence of perennial and succulent herbaceous forage) and indirectly, the suitability of habitat for those species that prey on or inhabit prairie dog burrow systems, including ferret, burrowing owl, and ferruginous hawk. In the event construction is delayed into 2004, additional surveys and impact analyses would be required to determine the relationship between project work, prairie dog distribution and abundance, and the potential for use by burrowing owl, ferruginous hawk, and ferret.

Reducing excessive sediment and salinity contributions to the White river would likely be beneficial in promoting or maintaining proper functioning channel processes in the White river, and the project would be expected to have an incremental positive influence on occupied pike-minnow habitat below Kenney Reservoir. In May 1994, BLM prepared a Programmatic Biological Assessment (PBA) that addresses water-depleting activities in the Colorado River Basin. In response to BLM's PBA, the FWS issued a Biological Opinion (BO) (#ES/GJ-6-CO-94-F-017) on June 13, 1994, which determined that water depletions from the Colorado River

Basin are likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker and result in the destruction or adverse modification of their critical habitat. The BO addresses internal and external BLM projects, including impoundments. The BO includes reasonable and prudent alternatives developed by the FWS which allow BLM to authorize projects that result in water depletion (if less than 100 AF) while avoiding the likelihood of jeopardy to the endangered fishes and avoiding destruction or adverse modification of their critical habitat. As a reasonable and prudent alternative in the BO, FWS authorized BLM to make a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet depleted by each project. The BO instructed BLM to make an annual payment to the National Fish and Wildlife Foundation (NFWF) to cover all BLM authorized actions that result in water depletions. The Coal Reef Erosion Control Structures will deplete about 45 AF annually. This project has been entered into the White River Field Office water depletion log, which will be submitted, to the Colorado State Office at the end of the Fiscal Year. The CSO is responsible for paying depletion fees based on the annual statewide total.

Environmental Consequences of the No Action Alternative: The no-action alternative would avoid any potential to involve special status species or their habitat. Although small in effect, the no action alternative would forego proactive opportunities to enhance forage conditions for prairie dogs and promote appropriate sediment balance and maintenance of proper functioning channel conditions in the lower White River system; an important habitat consideration in the event future projects allow pike-minnow to once again occupy the White River above Taylor Draw dam. Failing to install these structures would avoid the small Colorado River water depletions associated with the project; however, the analyses from which these figures are derived are inflated because there is no effective way to account for improved infiltration of surface water into alluvial systems that eventually release to the river.

Mitigation: In the event project work is delayed and needs to be reinitiated in 2004 (i.e., March through September), additional surveys and analyses would be required to determine the relationship between project work, current prairie dog distribution, potential ferret occupation, and the presence of burrowing owl and ferruginous hawk nesting activity.

Finding on the Public Land Health Standard for Threatened & Endangered species: Public Land Health Standards for those special status species associated with these salt desert and juniper-sage habitats are currently being met. In particular, the Highway 40 corridor sustains a relatively stable and widely distributed prairie dog population that is capable of sustaining associated species, including black-footed ferret and burrowing owl. This project would have no adverse influence on populations, available extent of suitable habitat, or the reproductive activities of these species and therefore would not interfere with continued meeting of the land health standard from this perspective. Incremental gains in perennial grass cover associated with channel rejuvenation would be expected to reestablish terrain features and herbaceous forage and cover conditions more consistent with the proper functioning of these arid salt desert communities as wildlife habitat. Bolstering local populations of prairie dogs in the long term would benefit the long term capacity of these lands as burrowing owl, ferruginous hawk, and black-footed ferret habitat, and more thoroughly satisfy land health objectives.

Overall aquatic conditions along the lower White River meet the standard for Colorado pike-minnow and other downstream special status fish. Efforts to reduce excessive sediment and salinity contributions would aid in enhancing or maintaining proper functioning channel processes in downstream fisheries and are wholly consistent with continued meeting of the standard.

THREATENED AND ENDANGERED PLANTS: (This includes all information related to plants in Public Land Health Standard 4.)

Affected Environment: One Colorado BLM sensitive plant species occurs near the project area, the debris milkvetch (*Astragalus detritalis*). The geologic substrates for the other special status plants known within the White River Field Office do not exist near the project area. The debris milkvetch occurs on some of the alluvial terraces that are within a mile wide corridor of Hwy 40 between Massadona to the west and Wolf Creek to the east. Nearly all of the known populations of the debris milkvetch occur immediately south of Hwy 40 on terraces and adjoining slopes covered with small cobbles. An inventory of the project area did not find any plants of the debris milkvetch nor any of its cobble covered habitat.

Impact of Proposed Action: No impacts are anticipated to any special status plant species from the proposed action.

Impact of No Action Alternative: No impacts are anticipated to any special status plant species from the no-action alternative.

Mitigative Measures: None

Finding on the Public Land Health Standard for Threatened & Endangered species: There is no reasonable likelihood that the proposed action or no action alternative would have an influence on the condition or function of Threatened, Endangered, or Sensitive plant species. Thus there would be no effect on achieving the land health standard.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the proposed action.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The operator shall be required to collect and properly dispose of any solid wastes generated by this project.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Red Wash and Hall Draw are tributary to the White River, which is a major subbasin of the Colorado River System. The main tributary to Red Wash, affected by the proposed action, is Boxelder Creek which is typically intermittent. High runoff generally occurs from mid-March through mid-June and is caused primarily by melting of the higher elevation snowpack. Transitional months are usually March and July. Early season runoff is generally from lower elevation snowmelt and may provide a separate and lower discharge peak than the main peak in the hydrograph, which usually occurs in late May and early June.

Water from the higher mountain runoff contains lower concentrations of salts with calcium bicarbonate predominating. As water moves through the lower reaches of the system, the major constituents typically change from calcium bicarbonate to calcium sulfate, sodium sulfate, and sodium chloride. This shift is influenced by factors such as (a) a change in the salinity of the alluvial material that water contacts, (b) the chemical makeup of soils and geologic formations contributing surface runoff and groundwater, and (c) the relative cation-anion exchange activity between salt producing ions. Sodium and chloride are the most active ions and tend to replace or exchange with other elements in solution.

Environmental Consequences of the Proposed Action: Implementation of the planned pits and gully plugs will aid in watershed stabilization and salinity reduction, with the primary goal being a sustained yield of cleaner water, a decrease in soil loss, and an increase in vegetation cover that protects a watershed. Therefore, the proposed erosion control structures would have a beneficial impact to water quality by reducing salt loads and sediment transport into the White River and subsequently into Kenney Reservoir.

Environmental Consequences of the No Action Alternative: Current problems would continue in the existing environment including impacts to the alluvial valleys, soils, and water quality. There would be continued accelerated erosion of the area through upstream migration of actively cutting gullies. Current problems of channelization, loss of soil, salinity and sediment transport to the White River would continue. No mitigation measures would be required for the No Action Alternative.

Mitigation: None

Finding on the Public Land Health Standard for water quality: The proposed action alternative would result in the Colorado Public Land Health Standard #5 (water quality) being met and maintained for those areas treated within the project area.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: The proposed action is located in small upland tributaries of Box Elder and Hall Draw drainages. The Box Elder tributaries slope downward in a northern gradient, descending from Coal Ridge towards the Box Elder Creek. No wetlands and/or riparian zones are located within the direct vicinity of the project area, as the only water source within these upland tributaries is from overland flow events resulting from rain and/or snow melt.

Environmental Consequences of the Proposed Action: None, as no wetlands and/or riparian zones are located within the direct vicinity of the project area nor would any be impacted by development of this proposal. These proposed erosion control structures will only catch overland flow events from rain and snow melt, since no perennial or intermittent water exists within the upland tributaries within the project's boundary.

The project would reduce the amount of headcut advancement within these small upland drainages. With the reduction of headcutting, an opportunity would exist for the natural creation of a native grass swale community upslope of the constructed erosion control structures. However, a lack of adequate water would preclude these systems from developing into a viable riparian system.

Environmental Consequences of the No Action Alternative: None; not constructing these structures would have no impact on any downstream wetland, riparian habitat, floodplain, and/or alluvial valleys.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: The proposed action would not affect Public Land Health Standard for riparian systems due to the fact that no riparian systems exist within the scope of the projects area.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACECs, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The project area encompassed by the Lower Wolf Creek WMP (structures 1-39) occurs upon shale badland soils that are derived from Mancos Shale. These soils are highly erosive in nature and have extremely high salt/clay content. Sediment yield from the project area is estimated at 5 to 12 tons per acre with some areas producing as much as 20 tons per acre.

Within the Red Wash WMP (structures 40-72), soils are typically moderately deep, well drained, and are formed from alluvium and wind deposited materials. These soils have a high to very high erosive nature with rapid water runoff.

Environmental Consequences of the Proposed Action: It is estimated that the proposed sediment retention structures would retain sediment produced from 1,220 acres. This would result in an estimated 6,100 to 14,640 tons of sediment retained in the uplands annually and not transported into the tributaries to the White River and eventually into Kenny Reservoir. In addition, the salt content within the sediment loads would be retained in the uplands and not transported into the White River. The White River is a part of the Colorado River System which is highly impacted from salt loads within the river system.

Environmental Consequences of the No Action Alternative: Without the proposed sediment retention structures, up to an estimated 12,900 tons of sediment would continue to be transported annually into waterways leading to Kenny Reservoir. Headcut advancement would continue up the drainage bottoms of the proposal area until a non-permeable soil layer is intersected by the advancing wash. This progression of headcuts would increase the extent and size of undesirable incised washes. Also, the project area would continue to produce salt loads that would eventually make their way into the Colorado River system.

Mitigation: None.

Finding on the Public Land Health Standard for upland soils: The proposed action would help in meeting and maintaining Colorado Public Land Health Standard #1 for those localities treated within the project area. Standard #1 relates to upland soils and their relation to plant communities within the landscape. This standard would help to be met under the proposed action because headcut advancements would be reduced through construction of sediment catchments. The no action alternative would result in a situation in which the Colorado Public Land Health Standard #1 may not be met due to headcuts causing incised drainages.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Ecological sites associated with the proposed action are principally foothill swales, clayey salt deserts, clayey slopes, and alkaline slopes. Vegetation related to the salt tolerant ecological sites are dominated by Gardner saltbush, mat saltbush, shadscale, and greasewood with an understory consisting of salina wildrye, western wheatgrass, and squirreltail. Within the project area, these salt tolerant ecological sites are typically found within the Box Elder drainage (structures 1-39). The other principle ecological site within the

project area is found within the Hall Draw locality and is dominated by a foothill sagebrush plant community (foothill swales ecological site, structures 40-72). Vegetation associated with this plant community is typically big sagebrush, rubber rabbitbrush, and fourwing saltbrush with an understory consisting of western wheatgrass, squirreltail, Indian ricegrass, and needle-and-thread grass.

Environmental Consequences of the Proposed Action: The typical plant community that would be impacted by this action over the long term would be the grassed swale communities, as the proposed erosion control structures are typically located in these areas. Other plant communities would be impacted by traversing equipment; however those impacts are expected to be minimal and short term because of the limited nature of the impact. As shown from previous cross-country dozer travel within this locality in recent years, there are little long-term impacts or evidence of the previous dozer track imprints.

The erosion control structures would prevent the progression of headcuts into the highly productive grassed swales. Without the proposed structures, these swale areas would continue to decline in productivity and acreage as headcuts continue there advancement into the swales, thus limiting the availability of rangelands for adequate plant production, and transforming these grassed swales into incised drainages dominated by cheatgrass. In addition to preventing loss of grassed swales, silt trapped in the erosion control structures will create sites suitable for development of future grassed swales.

Environmental Consequences of the No Action Alternative: Headcut advancement would continue to destroy the grassed swale plant communities within the drainage bottoms. Also, the no action alternative would result in a situation in which the Colorado Public Land Health Standard #3 may not be met, because of the transformation of the grassed swale plant communities into incised washes.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The proposed action would help in achieving and maintaining the Colorado Public Land Health Standard #3 for those locations treated within the project area. Standard #3 relates to the health and productivity of the landscape's plant and animal communities, and manages them at levels within the habitat's ecological potential. Reaching this standard would be done by restricting the advancement of headcuts up the drainage bottoms, thus limiting the reduction of the natural extent of grass swale plant communities that lay within the headcuts path.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: Box Elder Creek is the only system in the project area that supports seasonal flow. This small, deeply incised channel bears low, shallow flow and supports only the most simple invertebrate-based aquatic community. No structures would be emplaced in this channel. The remaining channels associated with the project area are ephemeral, at best

supporting a narrow mesic fringe composed of facultative species (e.g., slender wheatgrass, big bluegrass). These systems have no potential to support aquatic habitat. Hall Draw (i.e., project sites south of Coal Reef) drains into the White River and its warm water, and largely non-game fisheries (see Threatened and Endangered Species section above) about 11 miles above Taylor Draw dam. Red Wash, which drains the project area north of Coal Reef, enters the White River about 4 miles above the dam.

Environmental Consequences of the Proposed Action: There are no developed aquatic habitats or communities directly associated with this action. These structures will contribute to incremental reductions in sediment and salinity delivery to riverine habitats along the White River (see T/E species section).

Environmental Consequences of the No Action Alternative: Although small in effect, the no action alternative would forego a proactive opportunity to help promote appropriate sediment balance and maintenance of proper functioning channel conditions in the lower White River system and its warm water fisheries (see T/E species section).

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): The proposed project represents continued progress toward correcting accelerated upland erosion and excessive sediment deposition to aquatic habitats associated with the White River and, as such, would be consistent with efforts to achieve the standard for aquatic habitats in the long term. The no-action alternative would fail to take advantage of an opportunity to reduce or arrest channel downcutting and the further loss of alluvial storage in these arid habitats and would make no contribution toward meeting the land health standards in the future.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: Several hundred (e.g., 400-1000) elk make consistent use of the Coal Ridge area from January through April. Similar seasonal use (October through May) is made by deer, although their distribution is more closely associated with juniper cover north of Coal Reef. The project area north of Coal Reef is used throughout the year by pronghorn. Up to 150 pronghorn can be found along the Highway 49 corridor during the later fall through spring period, but water availability generally limits use during the drier summer and fall months to several dozen animals.

Sage-grouse occupy the sagebrush-saltbush communities along Highway 40 throughout the year. Nesting and brood-rearing use, associated with two small (2-6 birds) leks, is localized and sparse in the area as a whole. As summer progresses, birds tend to concentrate along the larger incised drainages for shade and succulent forage. Regular use is also made of those areas in and around silted-in catch basins, where birds make use of heavier grass cover for security and as an herbaceous and invertebrate forage source. Several hundred birds winter from Red Wash east to Coal Creek, with the majority concentrated on larger, contiguous sagebrush benches beneath

Pinyon Ridge; 6-8 miles east of the project area. Birds that likely originate from the lower Red Wash basin are occasionally noted in Hall Draw, south of Coal Reef, but use of this relatively xeric sagebrush is apparently sporadic and sparing.

Environmental Consequences of the Proposed Action: Construction of all 65 structures as proposed would involve about 7 acres of surface disturbance, and would constitute an imperceptibly small, widely dispersed, and temporary reduction in the woody forage and cover base for big game, sage grouse, and nongame wildlife. This action represents a very localized, slowly progressing, and predictable form of disturbance that would involve little, if any, disruption of big game, sage grouse, and nongame seasonal use activities. Construction would not occur during those periods when resident wildlife is most susceptible to displacement and avoidance responses (i.e., seasonal reproductive activities and late winter/early spring period). The proposed project would not involve the expansion or redevelopment of the local road system. Existing roads and trails would be used as much as practical. Experience from previous years' work has shown that cross-country walking of the dozer leaves little in the way of a residual track and the dozer's track span is not amenable to further use by conventional wheeled vehicles.

Although facultative in nature, herbaceous channel growth in the Wolf Creek and Red Wash incise lends considerable stability and function to these systems, as well as providing a source of succulent forage to deer, pronghorn, and grouse when most upland sources have cured. The temporary availability of water in numerous upland structures may help to periodically moderate use of channel growth when cattle use extends through June.

Brief water retention and channel aggradations attributable to these structures would, in the matter of several years, create herbaceous swales that produce and retain herbaceous cover and succulent forb forage late into the summer. Increased availability of upland water may occasionally intensify spring grazing use by livestock and elk in these locales, but usable water storage will likely be brief, such that the overall effect on herbaceous cover and forage conditions for big game and grouse would be slight. The livestock grazing programs employed in the allotment allow intervening rest or deferment between spring use periods, which should promote rapid herbaceous development in the constructed basins. These series of structures would be expected to stabilize actively eroding gullies and eventually expand the lateral extent of swale habitat within the greater sagebrush/saltbush matrix. These swales would be expected to attract, in particular, increased seasonal use by pronghorn and sage grouse and more generally enhance cover, forage substrate and foodstuffs derived from herbaceous growth across the entire spectrum of resident game and non-game fauna.

Environmental Consequences of the No Action Alternative: The no action alternative would forego a cooperative effort to maintain and/or reestablish herbaceous swale components within native shrub habitats to the benefit of resident deer, pronghorn, and sage grouse. Left unattended, and in the long term, a similar herbaceous community might be expected to develop in a mature channel incise. However, the utility of herbaceous forage and cover available in these circumstances, particularly for pronghorn and sage grouse, would be effectively lost since these animals would be behaviorally constrained from accessing deep and narrow incises. It is

also unlikely that the potential lateral expression of moisture in an incise would be as extensive as a swale developed closer to the original landform.

Although likely to be inconsistent and minor in overall effect, any moderation of livestock grazing use of herbaceous components in the Wolf Creek and Red Wash channels attributable to alternate upland water sources would also be foregone in the no action alternative (see discussion above).

Mitigation: None, but see Threatened and Endangered Species section above.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The overall project area meets the public land health standard for animal communities, although incised bottomland vegetation communities tend to be represented excessively by introduced annuals (e.g., cheatgrass, purple mustard). Although these sites, in and of themselves, cannot be considered meeting the definition of the land health standard, the vast majority of the shrublands comprising this landscape retain character sufficient to support viable populations of resident nongame species, albeit at population densities somewhat reduced from potential. In their current state, these bottomland sites would remain in a historically imposed annual disclimax and would be incapable of supporting comparable abundance or diversity of nongame wildlife relative to well developed native bunchgrass communities.

The proposed action, as part of a multi-year program, would contribute broadly to the long term restoration of soil stability and ephemeral channel processes in these bottomland situations and thereby aid in better meeting land health objectives by promoting conditions amenable to the redevelopment of bunchgrass communities that would support an animal community (particularly small mammals) that more closely resembled animal composition and density more appropriate to the potential of the site.

The no action alternative would not necessarily detract from maintaining the standard in its current state, but would fail to take advantage of an opportunity to reduce the extent of degraded habitats within the saltbush communities along the Highway 40 corridor and Hall Draw drainage.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation		X	
Cadastral Survey	X		
Fire Management	X		
Forest Management	X		
Geology and Minerals	X		
Hydrology/Water Rights	X		

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Law Enforcement		X	
Paleontology	X		
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

RANGELAND MANAGEMENT:

Affected Environment: The project area covers a portion of the Massadona (06324) and Miller Creek (06373) allotments. The Massadona allotment is operated by Three Springs Ranch (0501447), while Halbert and Sandra Tuttle are authorized on the Miller Creek allotment. Three Springs Ranch is a cattle operation and is authorized on the Massadona allotment during the winter to early spring period. The Tuttle's have a sheep operation and are authorized on the Miller Creek allotment during the winter.

Environmental Consequences of the Proposed Action: The typical plant community that would be impacted by this action over the long term would be the grassed swale communities, as the proposed erosion control structures are typically located in these areas. Other plant communities would be impacted by traversing equipment, however those impacts are expected to be minimal and short term because of the limited nature of the impact. As shown from previous cross-country dozer travel within this locality in recent years, there are little long-term impacts or evidence of the previous dozer track imprints.

The erosion control structures would prevent the progression of headcuts into the highly productive grassed swales, which provide forage value for grazers. Without the proposed structures, these swale areas would continue to decline in productivity and acreage as headcuts continue their advancement into the swales, thus limiting the availability of rangelands for adequate plant production, and transforming these grassed swales into incised drainages dominated by cheatgrass. In addition to preventing loss of grassed swales, silt trapped in the erosion control structures will create sites suitable for development of future grassed swales, which would result in increased forage available for grazing animals. The structures will also provide livestock watering sites, which will achieve greater distribution of livestock in a more even pattern with use of the uplands located near the proposed structures. This would be beneficial in that less intensive use by authorized livestock would occur around existing water localities through greater distribution.

Environmental Consequences of the No Action Alternative: Headcut advancement would continue to destroy grassed swales within drainage bottoms and result in a long term continuing loss of forage available to grazing animals. Forage losses expected under this alternative are likely to cause increased grazing use on available upland forage sources. An increase in grazing

use of upland areas would reduce vegetative cover on these areas, thus increasing potential runoff into the grassed waterways and resulting in the hastened loss of forage and vegetative ground cover.

The no action alternative would result in a situation in which the Colorado Public Land Health Standard #3 would not be met, because of the transformation of the grassed swale plant communities into incised washes.

Mitigation: None

REALTY AUTHORIZATIONS

Affected Environment: Sites #1, #2, and #10 are not located on public lands.

Environmental Consequences of the Proposed Action: Dam sites #1 and #2 are located on Colorado State Trust Land. Dam site #10 is located on private property.

Environmental Consequences of the No Action Alternative: None

Mitigation: None necessary.

RECREATION:

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management area (ERMA). The ERMA will is managed custodially to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

Environmental Consequences of the Proposed Action: Wolf Creek basin is used infrequently during various times of the year for prairie dog shooting and big game hunting. If construction of proposed action occurs during the months of June and the period of October through November, some recreational hunting activities may be interrupted. After construction has ceased there will be no impact on recreational resources.

Environmental Consequences of the No Action Alternative: None.

Mitigation: To avoid impacts to recreational hunters, the months of June, October and November could be precluded from construction dates.

VISUAL RESOURCES

Affected Environment: The proposed action is within a VRM class III area. The objective of this class is to partially retain the existing character of the landscape. The level of change to

the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape

Environmental Consequences of the Proposed Action: The proposed action is small in scale relative to the surrounding landscape; therefore, any modifications will be unseen to the casual observer, and VRM III objectives will be met. Furthermore, any disturbed vegetation will return making the action virtually unnoticeable within a period of a few years.

Environmental Consequences of the No Action Alternative: No impact on visual resources.

Mitigation: Remove as little vegetation as possible during construction.

CUMULATIVE IMPACTS SUMMARY: This project, in concert with similar efforts being undertaken, would aid in extending the useful life of Kenny Reservoir, as well as prevent high salt loads from eventually making their way into the Colorado River system. In 2001, 53 sediment retention structures were constructed in the Divide Creek and Box Elder Creek drainages. Both of these drainages also contribute sediment and salt runoff to the White River and Kenny Reservoir. The 2001 project retained an estimated 1,250 to 3,000 tons of sediment in uplands annually. In 2002, 68 structures were constructed in the Coal Reef/Coal Creek area. The 2002 project retained an estimated 5,750 to 13,800 tons of sediment. In 2003, 65 structures were constructed in the Coal Reef area, south of the Wolf Creek drainage. The 2003 project retained an estimated 5,375 to 12,900 tons of sediment. Thus, with the addition of the proposed action in this environmental assessment, an estimated 18,675 to 44,820 tons of sediment will/have be retained in the uplands, and prevented from entering the White River and Kenny Reservoir. Other impacts, such as removal of vegetation and damage from cross-country travel by the construction equipment are not cumulative because these impacts are temporary, and those from previous projects no longer exist.

PERSONS / AGENCIES CONSULTED:

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
CP Hollowed	P & EC	Air Quality
Tamara Meagley	NRS	Areas of Critical Environmental Concern
Tamara Meagley	NRS	Threatened and Endangered Plant Species
Michael Selle	Archaeologist	Cultural Resources Paleontological Resources
Robert Fowler	Forester	Invasive, Non-Native Species
Ed Hollowed	Wildlife Biologist	Migratory Birds
Ed Hollowed	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Marty O'Mara	Hazmat Collateral	Wastes, Hazardous or Solid
CP Hollowed	P & EC	Water Quality, Surface and Ground Hydrology and Water Rights
Jed Carling	Rangeland Management	Wetlands and Riparian Zones
Chris Ham	ORP	Wilderness
Jed Carling	Rangeland Management	Soils
Jed Carling	Rangeland Management	Vegetation
Ed Hollowed	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	ORP	Access and Transportation
Ken Holsinger	NRS	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Jed Carling	Rangeland Management	Rangeland Management
Linda L Jones	Realty Specialist	Realty Authorizations
Chris Ham	ORP	Recreation
Chris Ham	ORP	Visual Resources
Valerie Dobrich	NRS	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2004-141-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analysis of the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve the construction and /or maintenance of the 70 erosion control structures, as described in the proposed action, with the mitigation measures listed below.

MITIGATION MEASURES: 1. In the event project work is delayed and needs to be reinitiated in 2004 (i.e., March through September), additional surveys and analyses would be required to determine the relationship between project work, current prairie dog distribution, potential ferret occupation, and the presence of burrowing owl and ferruginous hawk nesting activity.

2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the operator will likely have to undertake before the identified area can be used for grazing activities again and,

3. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

4. The operator shall be required to collect and properly dispose of any solid wastes generated by this project.

5. To avoid impacts to recreational hunters, the months of June, October and November could be precluded from construction dates.

6. Remove as little vegetation as possible during construction.

COMPLIANCE/MONITORING: An inspection of the completed project will be done by the Range staff responsible for the grazing allotments and would continue on a regular basis.

NAME OF PREPARER: Jed Carling (Rangeland Management Specialist)

NAME OF ENVIRONMENTAL COORDINATOR: *Caroline P. Hallowed 8/20/04*

SIGNATURE OF AUTHORIZED OFFICIAL: *Michael Lelle*
acting Field Manager

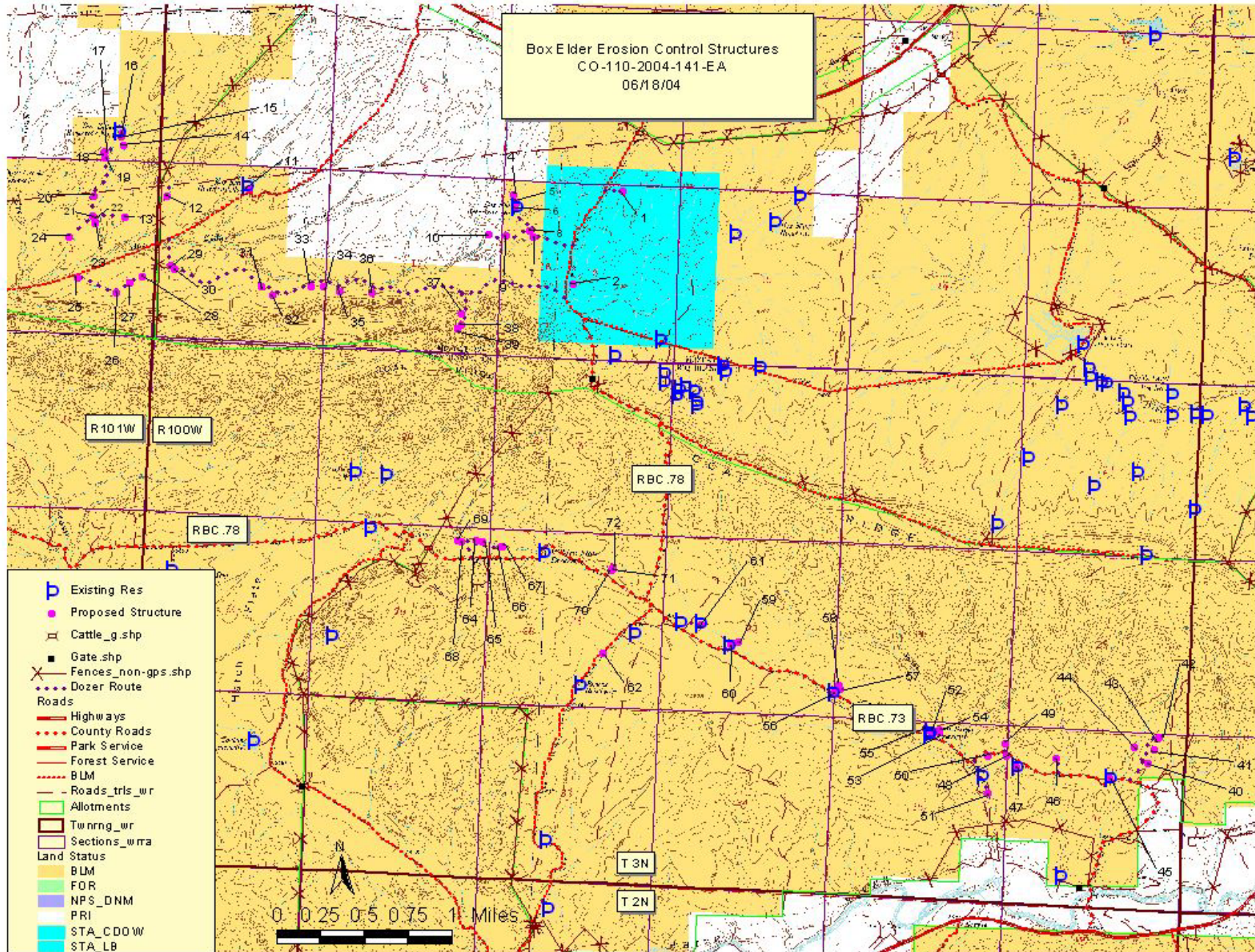
DATE SIGNED: *8/20/2004*

ATTACHMENTS:

Figure 1: Map of Box Elder Erosion Control Structures

Table 1: Location, Description, Comments of Individual Structures

Figure 1: Map of Box Elder Erosion Control Structures



BOX ELDER EROSION CONTROL STRUCTURES

Table 1: Location, Description, Comments of Individual Structures

EROSION CONTROL STRUCTURE	PURPOSE	SIZE	COMMENT	DATE
BOX ELDER SED CONTROL 1	Erosion Prevention	Small	SMALL HEADCUT, ST LAND	5/19/2004
BOX ELDER SED CONTROL 2	Erosion Prevention	Medium	ST LAND, LARGE HEADCUT	5/19/2004
BOX ELDER SED CONTROL 4	Erosion Prevention	Small	MED HEADCUT, OVERFLOW	5/19/2004
BOX ELDER SED CONTROL 5	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 6	Livestock Water	Large	CLEAN EXISTING RES	5/19/2004
BOX ELDER SED CONTROL 7	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 8	Sediment Catchment	Small	INACTIVE PD HOLES 60FT	5/19/2004
BOX ELDER SED CONTROL 9	Erosion Prevention	Medium	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 10	Sediment Catchment	Small	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 11	Livestock Water	Large	CLEAN EXISTING RES	5/19/2004
BOX ELDER SED CONTROL 12	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 13	Sediment Catchment	Small	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 14	Sediment Catchment	Small	2 WASHES	5/19/2004
BOX ELDER SED CONTROL 15	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 16	Livestock Water	Medium	CLEAN/FIX EXISTING RES	5/19/2004
BOX ELDER SED CONTROL 17	Erosion Prevention	Small	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 18	Sediment Catchment	Small	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 19	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 20	Sediment Catchment	Medium	SMALL WASH	5/19/2004
BOX ELDER SED CONTROL 21	Sediment Catchment	Small	3 WASHES	5/19/2004
BOX ELDER SED CONTROL 22	Sediment Catchment	Small	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 23	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 24	Sediment Catchment	Medium	MED WASH	5/19/2004
BOX ELDER SED CONTROL 25	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 26	Erosion Prevention	Medium	MED WASH	5/19/2004
BOX ELDER SED CONTROL 27	Sediment Catchment	Small	SMALL WASH	5/19/2004
BOX ELDER SED CONTROL 28	Sediment Catchment	Small	2 WASHES	5/19/2004
BOX ELDER SED CONTROL 29	Erosion Prevention	Medium	2 MED WASHES	5/19/2004
BOX ELDER SED CONTROL 30	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 31	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 32	Erosion Prevention	Medium	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 33	Erosion Prevention	Small	SMALL SINKHOLE	5/19/2004
BOX ELDER SED CONTROL 34	Erosion Prevention	Large	MED HEADCUT	5/19/2004
BOX ELDER SED CONTROL 35	Sediment Catchment	Small	SMALL WASH	5/19/2004
BOX ELDER SED CONTROL 36	Erosion Prevention	Small	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 37	Erosion Prevention	Medium	LARGE HEADCUT	5/19/2004
BOX ELDER SED CONTROL 38	Erosion Prevention	Small	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 39	Erosion Prevention	Small	SMALL HEADCUT	5/19/2004
BOX ELDER SED CONTROL 40	Sediment Catchment	Small	SMALL WASH	5/20/2004
BOX ELDER SED CONTROL 41	Erosion Prevention	Small	SMALL PIPED WASH	5/20/2004
BOX ELDER SED CONTROL 42	Sediment Catchment	Medium	MED WASH	5/20/2004
BOX ELDER SED CONTROL 43	Sediment Catchment	Small	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 44	Sediment Catchment	Small	SMALL INCISED WASH	5/20/2004

BOX ELDER EROSION CONTROL STRUCTURES

Table 1: Location, Description, Comments of Individual Structures

EROSION CONTROL STRUCTURE	PURPOSE	SIZE	COMMENT	DATE
BOX ELDER SED CONTROL 45	Sediment Catchment	Medium	CLEAN/FIX EXISTING RES , PIPED	5/20/2004
BOX ELDER SED CONTROL 46	Erosion Prevention	Medium	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 47	Erosion Prevention	Large	CLEAN EXISTING RES	5/20/2004
BOX ELDER SED CONTROL 48	Erosion Prevention	Large	RD SIDE, LARGE HEADCUT FROM RD	5/20/2004
BOX ELDER SED CONTROL 49	Sediment Catchment	Small	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 50	Sediment Catchment	Divot	SMALL WASH	5/20/2004
BOX ELDER SED CONTROL 51	Erosion Prevention	Small	LARGE HEADCUT/PIPE, RD SIDE	5/20/2004
BOX ELDER SED CONTROL 52	Erosion Prevention	Large	CLEAN EXISTING RES	5/20/2004
BOX ELDER SED CONTROL 53	Erosion Prevention	Divot	SMALL HEADCUT/PIPE	5/20/2004
BOX ELDER SED CONTROL 54	Erosion Prevention	Medium	MED WASH	5/20/2004
BOX ELDER SED CONTROL 55	Sediment Catchment	Large	CLEAN EXISTING RES	5/20/2004
BOX ELDER SED CONTROL 56	Erosion Prevention	Medium	CLEAN/FIX EXISTING RES , LARGE PIPED, SPILLWAY	5/20/2004
BOX ELDER SED CONTROL 57	Erosion Prevention	Medium	MED HEADCUT	5/20/2004
BOX ELDER SED CONTROL 58	Erosion Prevention	Medium	MED HEADCUT	5/20/2004
BOX ELDER SED CONTROL 59	Erosion Prevention	Medium	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 60	Erosion Prevention	Medium	MED HEADCUT	5/20/2004
BOX ELDER SED CONTROL 61	Livestock Water	Large	EXISTING RES , FLAT BOTTOM, BUILD POCKET, '52	5/20/2004
BOX ELDER SED CONTROL 62	Erosion Prevention	Medium	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 64	Erosion Prevention	Small	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 65	Erosion Prevention	Divot	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 66	Erosion Prevention	Small	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 67	Erosion Prevention	Divot	SMALL WASH	5/20/2004
BOX ELDER SED CONTROL 68	Sediment Catchment	Small	SMALL HEADCUT	5/20/2004
BOX ELDER SED CONTROL 69	Erosion Prevention	Medium	MED HEADCUT	5/20/2004
BOX ELDER SED CONTROL 70	Erosion Prevention	Medium	LARGE HEADCUT	5/20/2004
BOX ELDER SED CONTROL 72	Erosion Prevention	Medium	2 MED WASHES	5/20/2004
BOX ELDER SED CONTROL 71	Erosion Prevention	Medium	MED HEADCUT	5/20/2004